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मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

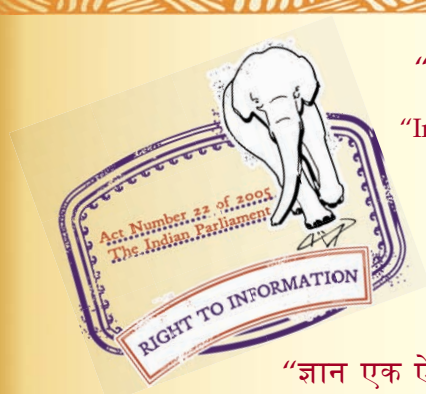
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 7155-3 (1986): Code of recommended practice for conveyor safety, Part 3: Belt conveyors and feeders [MED 6: Continuous Bulk Conveying, Elevating, Hoisting Aerial Ropeways and Related Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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*Indian Standard***CODE OF RECOMMENDED PRACTICE FOR
CONVEYOR SAFETY****PART 3 BELT CONVEYORS AND FEEDERS***(First Revision)*

1. Scope — Covers specific safety requirements for belt conveyors and feeders. These requirements are in addition to the information given in IS : 7155 (Part 1) - 1986 'Code of recommended practice for conveyor safety: Part 1 General information' and the general safety requirements given in IS : 7155 (Part 2)-1986 'Code of recommended practice for conveyor safety: Part 2 General safety requirements'.

1.1 These safety requirements shall apply to conveyors and feeders for loose bulk materials or unit loads using an endless moving belt (rubber, canvas, steel, plastic, wire mesh, etc) as the carrying and conveying medium and excludes the structures to which such equipment is affixed.

1.2 The belt may be supported by free-running idlers or suitable flat surfaces.

2. Specific Safety Requirements — Besides statutory and other requirements relating to safety in general, specific safety requirements shall be observed at the following stages:

- a) During the construction stage (design and manufacturer);
- b) During the installation stage (design, commissioning and entry into service); and
- c) During the utilisation stage (operation and maintenance).

2.1 In The Construction Stage (Design and Manufacture)

2.1.1 Belts shall be of sufficient width to suit the specific load and material to be conveyed. Guiding and centring devices shall be provided, if necessary, at the feed points.

2.1.2 In conformity with the requirements in 3.1.8 of IS : 7155 (Part 2)-1986, belt idlers and pulleys shall be completely guarded at the in-running nips and pinch points (feed, tension, convex curve points, etc).

2.1.3 In addition to the requirements in 3.1.4 and 3.1.5 of IS : 7155 (Part 2)-1986 relating to inclined conveyors, a safety device shall be provided (longitudinal rods, grill with articulated bars, etc) if it is normally foreseeable that material could be thrown out (throwing out caused, for instance, by a stop under the load or irregular loading).

2.1.4 As permitted by the requirement in 3.1.4 of IS : 7155 (Part 2)-1986 a safety device is not compulsory when, simultaneously, the mass of each unit load is below 50 kg and when the total design load of material on the sloping part of the appliance is below 500 kg.

2.2 During the Installation Stage (Design Commissioning and Entry into Service)

2.2.1 Belt conveyors shall be erected and aligned with care. This applies not only to the framework, but also to the mechanical parts and belt.

2.2.2 Belt conveyors shall be fed evenly, preferably by feeder or by a carefully designed feed chute.

2.2.3 The openings of feeding or transfer hoppers and chutes shall be guarded if normally accessible to operating personnel. It is recommended that inspection doors be provided on large hoppers and chutes.

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2.2.4 In pursuance of the requirements laid down in **3.2.10** of IS : 7155 (Part 2) - 1986, suitable protection shall also be provided against accidental dropping of material adhering to the return belt.

2.2.5 Counterweight tension devices shall be guarded at points normally accessible to operating personnel. Guards shall prevent access to the space directly below the counterweight; in the absence of these guards, blocking devices shall be provided.

2.3 During the Utilisation Stage (Operation and Maintenance)

2.3.1 In addition to the requirement in **3.3.4** of IS : 7155 (Part 2)-1986 the adjustment and maintenance in good running order of the belt and pulley cleaning devices shall be carried out regularly.

2.3.2 In addition to the requirement in **3.3.5** of IS : 7155 (Part 2)-1986 the manual cleaning of pulleys, idlers and other parts, necessitated by the build-up of material or any other cause, shall only be undertaken when the equipment is at rest, and after rendering the starting devices inoperative.

2.3.3 In compliance with the requirement in **3.3.2** of IS : 7155 (Part 2)-1986 the user shall be particularly careful to ensure a regular feed, avoiding, even momentarily, the overloading of the appliance.

2.3.3.1 In particular, the user shall not change the feeding points without previously consulting the manufacturer/constructor.

3. Special Equipment (Additional Requirements)— Generally the requirements for belt conveyors apply to the special equipment(s).

3.1 In The Construction Stage (Design and Manufacture)

3.1.1 Additional travelling equipment, such as travelling tripper, scraper, travelling feed hopper, and feeder, whether self-propelled or manually controlled, shall be fitted with the guide idlers so as to minimize effects of undue belt sway.

3.1.2 Wheels or rollers of mobile conveyors (shuttle conveyors) and of additional travelling equipment referred to in **3.1.1** shall be guarded at working points accessible to service personnel under normal working conditions.

3.1.3 It is recommended to reduce, as far as possible, projecting parts of mobile conveyors (shuttle conveyors) and additional travelling equipment (travelling tripper, scraper, travelling feed hopper, feeder, etc).

3.1.4 Whenever it is necessary for an operator to remain on the travelling equipment, a platform shall be provided and so designed as to prohibit any accidental contact with mobile components or any part of the fixed installation.

3.2 During the Installation Stage (Design, Commissioning and Entry into Service)

3.2.1 Safety devices shall be provided to limit the travel of additional travelling appliances and equipments.

3.2.2 Where the speed of a mobile appliance or equipment travelling alongside a traffic gangway is designed to exceed 0.10 m/s an audible and/or visible warning device shall be operated prior to (and, where applicable, during) movement of the appliance or equipment.

EXPLANATORY NOTE

IS : 7155 as code of practice for conveyor safety was published in 1974. Based on the experience gained in the field and revision of related International Standards as also the availability of some other related ISOs, this revision has been taken up.

This part 3 of the standard is one of the series of Indian Standard code of recommended practice for conveyor safety. The other parts of the standard are:

Part 1 General information; and

Part 2 General safety requirements.

Part 1 of this standard is a necessary adjunct to other parts of this standard.

In the preparation of this standard, considerable assistance has been derived from the following publications.

ISO 1819-1977 'Continuous mechanical handling equipment— Safety code— General rules' issued by International Organization for Standardization (ISO),

ISO 7149-1982 'Continuous handling equipment— Safety code— Special rules' issued by International Organization for Standardization (ISO), and

AS CZ 15-1971 'SAA Conveyor safety code' issued by Standards Association of Australia.